Otitis Media

Summary of Methods and Data for Estimate of Costs of Illness

1.	Estimated Total Economic Cost	$ 5.0 billion*
	Estimated Direct Cost	$ 2.9 billion
	Estimated Indirect Cost	$ 2.1 billion
	Reference Years	1993
	ICD Providing the Estimate	NIDCD
	Direct Costs Include: Other related nonhealth costs	No
	Indirect Costs include:	
	Mortality costs	No
	Morbidity costs: Lost workdays of the patient	No
	Morbidity costs: Reduced productivity of the patient	No
	Lost earnings of unpaid care givers	Yes
	Other related nonhealth costs	Yes
	Interest Rate Used to Discount Out-Years Costs	Not Available
2.	Category code(s) from the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) for all diseases whose costs are included in this estimate: 381-382.	
3.	Estimate Includes Costs:	
	Of related conditions beyond primary, strictly coded ICD-9-CM category	No
	Attributable to the subject disease as a secondary diagnosis	No
	Of conditions for which the subject disease is an underlying cause	No
4.	Population Base for Cost Estimate (Total U.S. pop or other)	Total U.S. pop.
5.	Annual (prevalence model) or Lifetime (incidence model) Cost:	Annual
6.	Perspective of Cost Estimate (Total society, Federal budget, or Other)	Total Society
7.	Approach to Estimation of Indirect Costs	Human Capital

8. Source of Cost Estimate: (Reference published or unpublished report, or address and telephone of person/office responsible for estimate)

Gates, George A., MD, FACS, Seattle, Washington. "Cost-effectiveness considerations in otitis media treatment," *Otolaryngology, Head and Neck Surgery*, April 1996; 114:525-30. NIH R01 DC01525.

Wandstrat TL, Kaplan B. West Virginia Univ. "Pharmacoeconomic impact of factors affecting compliance with antibiotic regimens in the treatment of acute otitis media," *Pediatric Infectious Disease Journal*, February 1997; 16 (2) S27-S29, Suppl.

Elden LM, Coyte PC. McMaster Univ., Canada. "Socioeconomic impact of otitis media in North America," *Journal of Otolaryngology*, 1998; 27:9-16, Suppl.2.

9. Other Indicators of Burden of Disease:

The most common cause of temporary hearing loss in children is otitis media. Eighty percent of American children have an episode of otitis media by the time they are three years of age. According to data from the Agency for Health Care Policy and Research (AHCPR), in 1991 the annual cost of treating two-year-olds was $1 billion.

Tween DW, et al. "Epidemiology of otitis media during the first seven years of life in children in Great Boston: A prospective cohort study," *Journal of Infectious Diseases*; 160:83, 1989.

Otitis Media in Young Children, Clinical Practice Guidelines Number 12. AHCPR Publication Number 94-0622; July 1994.

10. Commentary:

Otitis media is the major reason cited for taking infants and young children to emergency rooms or to a physician's office. More antibiotics are prescribed by physicians for children with otitis media than for any other reason. The disease causes infants, children and their families great distress and accounts for at least $2.2 to $3 billion in health care bills. Since the current state-of-the-art favors the development of vaccines against otitis media, the development of these vaccines has become an area of emphasis in the NIDCD. NIDCD scientists have recently been successful in developing a promising candidate vaccine. A Phase I clinical study is underway in adult volunteers to evaluate the safety and immunogenicity of the investigational vaccine. More than 30 volunteers have been injected with the vaccine and no adverse reactions have been observed. Later, the vaccine will be tested to determine its clinical effectiveness in children. Preliminary data from this study shows that the vaccine is able to elicit the production of a specific antibody against *Haemophilus influenzae*, a bacteria that is largely responsible for causing otitis media in children. The delivery of this vaccine to combat otitis media would reduce the human and financial toll on infants, children, their families and upon the health care system.